

IN THE DRAWINGS

The attached sheet of drawings is new Fig. 11.

Attachment: New Drawing Sheet

REMARKS

Favorable reconsideration of this application in view of the above amendments and following remarks is respectfully requested.

Claims 1, 6-11 and 20-34 are pending in this application. Claims 25-34 are withdrawn from consideration. By this amendment, the specification is amended; Figure 11 is added; Claims 1, 8 and 9 are amended; Claims 4, 12-13, 15-18 and 35 are cancelled; and no claims are added herewith. It is respectfully submitted that no new matter is added by this amendment.

In the outstanding Office Action, the drawings were objected to; Claims 4, 12, 13, 15, 17 and 18 were rejected under 35 U.S.C § 112, second paragraph; Claims 1, 4, 6-11 and 20-24 were rejected under 35 U.S.C. § 102(b) as anticipated by US 2002/0134426 to Chiba; and Claims 12-13, 15-18 and 35 were rejected under 35 U.S.C. § 103(a) as unpatentable over Chiba.

With respect to the objection to the drawings, Fig. 11 is added to show features of one or more embodiments of the invention. Withdrawal of the objection to the drawings is respectfully requested.

With respect to the rejection under 35 U.S.C § 112, second paragraph, Claims 4, 12-13 and 15-18 are cancelled. Further, Claims 1 and 8-9 are amended to clarify the claimed features. Accordingly, withdrawal of the 35 U.S.C § 112 rejection is respectfully requested.

With respect to the rejections under 35 U.S.C. §§ 102 and 103(a) as unpatentable over Chiba, those rejections are respectfully traversed. In particular, it is respectfully submitted that the applied art does not teach, suggest, or render obvious a film including a plurality of layers, each layer having a first kind of particles of one average diameter or length, and all but one layer having a second kind of particles, in each of the layers having the second kind of particles, either (i) the average diameter or length of the second kind of particles is the

same in each layer and the amount of the second kind of particles present in each layer varies from layer to layer, or (ii) the amount of the second kind of particles present in each layer is the same in each layer and the average diameter or length of the second kind of particles varies from layer to layer, wherein, where the amount of the second kind of particles present in each layer varies from layer to layer, it increases from layer to layer, and where the average diameter or length of the second kind of particles present in each layer varies from layer to layer, it increases from layer to layer, wherein the one layer having only the first kind of particle is adjacent to said front face and the porous film has a continuous gradient of light scattering strength extending from said front face to said back face, as recited in Claim 1.

In contrast, Chiba discusses a dye-sensitized photovoltaic cell that includes a porous semiconductor layer of a photovoltaic layer having a multi-layer structure, whose haze ratio is controlled over a prescribed value, so as to improve the short circuit electric current density. “Haze ratio” means a “haze value (%)” as a standard for light transmittance as discussed in the last sentence of paragraph [0012] of Chiba. Chiba also discloses in paragraph [0034], lines 1-4 that the haze ratio of the porous photovoltaic layer can be controlled by changing the mixing ratio of particles having different particle diameters and by changing the particle diameters.

Chiba merely discusses that “the second and subsequent photovoltaic layers preferably has a larger haze ratio than the first layer” in paragraph [0030], lines 11-13, and that “particles having a particle diameter of four times or more the particle diameter of the semiconductor particles in the first porous photovoltaic layer are used in the second and subsequent layers” in paragraph [0034], lines 4-8. Thus, Chiba does not teach that the amount or size of the larger particles, that correspond to the second kind of particles according to presently amended Claim 1, is further increased in the subsequent layers, resulting in a gradient of light scattering strength extending from the front face to the back

face of the porous film. That is, according to Chiba the light scattering strength is constant in the second and subsequent layers, and is not further increased “from layer to layer” as recited in amended Claim 1.

In accordance with the features of the claimed invention, by using the specific design for the porous film as claimed, a continuous gradient of light scattering strength is obtained, which provides high and nearly constant absorbance throughout the whole electron transport layer, i.e. the non-scattering part and scattering part. Applicants submit that the features of the claimed invention are not taught or suggested by the applied art nor would one of ordinary skill in the art modify the teachings of Chiba by increasing the amount/size of the second kind of particles from layer to layer in order to create a continuous gradient of light scattering strength. That is, there is no indication in Chiba that a continuous gradient of light scattering strength would result in a high and nearly-constant absorbance throughout the entire electron transport layer, and thus provide superior energy conversion efficiency.

Withdrawal of the rejection of the claims under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) based on Chiba is respectfully requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.


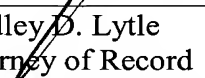
Respectfully submitted,

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